

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

BASICS ENERGY SCIENCES

1. **Acceptance scan technique for the drift tube linac of the spallation neutron source**
Jeon, D; Stovall, J; Takeda, H; Nath, S; Billen, J; Young, L; Kisselev, I; Shishlo, A; Aleksandrov, A; Assadi, S; et. al.
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Jan 1 2007; v.570, no.1, p.187-191
2. **Actinide-mediated coupling of 4-fluorobenzonitrile: synthesis of an eight-membered thorium(IV) tetraazamacrocyclic**
Schelter, EJ; Morris, DE; Scott, BL; Kiplinger, JL
Source: CHEMICAL COMMUNICATIONS; 2007; no.10, p.1029-1031
3. **Analytical solution for temperature profiles at the ends of thermal buffer tubes**
Matveev, Konstantin I.; Swift, Gregory W.; Backhaus, Scott
Source: International Journal of Heat and Mass Transfer; March 2007; v.50, no.5-6, p.897-901
4. **Anderson lattice behavior in $\text{Yb}_{1-x}\text{Lu}_x\text{Al}_3$**
Bauer, ED; Booth, CH; Lawrence, JM; Hundley, MF; Sarrao, JL; Thompson, JD; Riseborough, PS; Ebihara, T.
Source: Physical Review B (Condensed Matter); 15 March 2004; vol.69, no.12, p.125102-1-8
5. **Anisotropic thermal expansion and hydrogen bonding behavior of portlandite: A high-temperature neutron diffraction study**
Xu, H.; Zhao, Y.; Vogel, SC; Daemen, LL; Hickmott, DD
Source: Journal of Solid State Chemistry; April 2007; v.180, no.4, p.1519-1525
6. **Anomalies in stiffness and damping of a 2D discrete viscoelastic system due to negative stiffness components**
Wang, YC; Swadener, JG; Lakes, RS
Source: Thin Solid Films; Feb 12 2007; v.515, no.6, p.3171-3178
7. **Anomalous behavior of the electrical resistivity of MnSi near the ferromagnetic phase transition**
Petrova, AE; Bauer, ED; Krasnorussky, VN; Stishov, SM
Source: Journal of Experimental and Theoretical Physics; February 2007; v.104, no.1, p.47-50
8. **Application of time-domain airborne electromagnetic induction to hydrogeologic investigations on the Pajarito Plateau, New Mexico, USA**
Baldrige, W. Scott; Cole, Gregory L.; Robinson, Bruce A.; Jiracek, George R.
Source: Geophysics; March/April 2007; v.72, no.2, p.B31-B45
9. **Applying nonlinear resonant ultrasound spectroscopy to improving thermal damage assessment in concrete**
Payan, C; Garnier, V; Moysan, J; Johnson, PA
Source: Journal of the Acoustical Society of America; April 2007; vol.121, no.4, p.EL125-30
10. **Assembly of metal-organic frameworks (MOFs) based on indium-trimer building blocks: A porous MOF with soc topology and high hydrogen storage**
Liu, YL; Eubank, JF; Cairns, AJ; Eckert, J; Kravtsov, VC; Luebke, R; Eddaoudi, M
Source: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION; 2007; v.46, no.18, p.3278-3283
11. **Atomic distributions in the gamma-brass structure of the Cu-Zn system: A structural and theoretical study**
Gourdon, O; Gout, D; Williams, DJ; Proffen, T; Hobbs, S; Miller, GJ
Source: INORGANIC CHEMISTRY; JAN 8 2007; v.46, no.1, p.251-260
12. **BaCe_{1-x}PdxO_{3-delta} (0 <= x <= 0.1): Redox Controlled Ingress and Egress of Palladium in a Perovskite**
Li, J; Singh, UG; Bennett, JW; Page, K; Weaver, JC; Zhang, JP; Proffen, T; Rappe, AM; Scott, S; Seshadri, R
Source: CHEMISTRY OF MATERIALS; MAR 20 2007; v.19, no.6, p.1418-1426
13. **Coherent versus uncorrelated nanoscale heterogeneities in L1(0) solid solutions and their signatures from local and extended probes**

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Howell, RC; Conradson, SD; Garcia-Adeva, AJ

Source: JOURNAL OF PHYSICAL CHEMISTRY B; JAN 11 2007; v.111, no.1, p.159-167

14. Comment on "Temporally resolved electro-optic effect"

Yellampalle, B.; Ki-Yong Kim; Glownia, JH; Taylor, AJ

Source: Optics Letters; 15 May 2007; vol.32, no.10, p.1341-2

15. Comparative studies of compressibility between nanocrystalline and bulk nickel

Zhang, JZ; Zhao, YS; Palosz, B

Source: APPLIED PHYSICS LETTERS; JAN 22 2007; v.90, no.4, p.043112

16. Comparison of bulk-sensitive spectroscopic probes of Yb valence in Kondo systems

Moreschini, L; Dallera, C; Joyce, JJ; Sarrao, JL; Bauer, ED; Fritsch, V; Bobev, S; Carpene, E; Huotari, S; Vanko, G; et. al.

Source: PHYSICAL REVIEW B; JAN 2007; v.75, no.3, p.035113

17. Complementary planar terahertz metamaterials

Chen, Hou-Tong; O'Hara, John F.; Taylor, Antoinette J.; Averitt, Richard D.; Highstrete, C.; Lee, Mark; Padilla, Willie J.

Source: Optics Express; Feb 5 2007; v.15, no.3, p.1084-1095

18. Compressibility and pressure-induced amorphization of guest-free melanophlogite: An in-situ synchrotron X-ray diffraction study

Xu, HW; Zhang, JZ; Zhao, YS; Guthrie, GD; Hickmott, DD; Navrotsky, A

Source: AMERICAN MINERALOGIST; JAN 2007; v.92, no.1, p.166-173

19. Condensing and fluidizing effects of ganglioside, G(M1), on phospholipid films

Frey, SL; Chi, EY; Arratia, C; Majewski, J; Kjaer, K; Lee, KYC

Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.579A-579A

20. Conformational changes of cellular motors during movement along microtubules

Hjelm, RP; Stone, DB; Fletterick, RJ; Mendelson, RA

Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.308A-308A

21. Constant-pressure expansion of lipid-ganglioside monolayer by botulinum neurotoxin serotype A: does pH or dithiothreitol have more impact?

Miller, C; Strongin, B; Majewski, J; Singh, BR; Busath, DD

Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.252A-252A

22. Cracking the supersolid

Phillips, P; Balatsky, AV

Source: SCIENCE; JUN 8 2007; v.316, no.5830, p.1435-1436

23. Crystal structure of trimethyl borate by neutron and X-ray powder diffraction

Hartl, MA; Williams, DJ; Acatrinei, AI; Stowe, A; Daemen, LL

Source: ZEITSCHRIFT FUR ANORGANISCHE UND ALLGEMEINE CHEMIE; 2007; v.633, no.1, p.120-126

24. Defect kinetics in spinels: long-time simulations of $MgAl_2O_4$, $MgGa_2O_4$, and $MgIn_2O_4$

Uberuaga, BP; Bacorisen, D.; Smith, R.; Ball, JA; Grimes, RW; Voter, AF; Sickafus, KE

Source: Physical Review B (Condensed Matter and Materials Physics); 1 March 2007; vol.75, no.10, p.104116-1-13

25. Dependence of spurious charge-transfer excited states on orbital exchange in TDDFT: Large molecules and clusters

Magyar, RJ; Tretiak, S

Source: JOURNAL OF CHEMICAL THEORY AND COMPUTATION; MAY-JUN 2007; v.3, no.3, p.976-987

26. Details of electro-optic terahertz detection with a chirped probe pulse

Yellampalle, B.; Kim, KY; Rodriguez, G.; Glownia, JH; Taylor, AJ

Source: Optics Express; Feb 5 2007; v.15, no.3, p.1376-1383

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27. **Determination of chiralities of single-walled carbon nanotubes by neutron powder diffraction technique**
Ojeda-May, P; Terrones, M; Terrones, H; Hoffman, D; Proffen, T; Cheetham, AK
Source: Diamond and Related Materials; March 2007; vol.16, no.3, p.473-6
28. **Determination of exciton-phonon coupling elements in single-walled carbon nanotubes by Raman overtone analysis**
Shreve, AP; Haroz, EH; Bachilo, SM; Weisman, RB; Tretiak, S; Kilina, S; Doorn, SK
Source: PHYSICAL REVIEW LETTERS; JAN 19 2007; v.98, no.3, p.037405
29. **Determining the site preference of trivalent dopants in bixbyite sesquioxides by atomic-scale simulations**
Stanek, CR; McClellan, KJ; Uberuaga, BP; Sickafus, KE; Levy, MR; Grimes, RW
Source: Physical Review B (Condensed Matter); 1 April 2007; vol.75, no.13, p.134101-1-7
30. **Dihydrogen complexes as prototypes for the coordination chemistry of saturated molecules**
Kubas, GJ
Source: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA; APR 24 2007; v.104, no.17, p.6901-6907
31. **Dislocation motion in high strain-rate deformation**
Wang, ZQ; Beyerlein, IJ; Lesar, R.
Source: Philosophical Magazine; 2007; v.87, no.16, p.2263-2279
32. **Dynamic recovery and optical properties changes in He-implanted ZnO nanoparticles**
Lee, JK; Harriman, TA; Lucca, DA; Jung, HS; Ryan, DB; Nastasi, M
Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS; APR 2007; v.257, p.71-74
33. **Dynamical magnetoelectric coupling in helical magnets**
Katsura, H; Balatsky, AV; Nagaosa, N
Source: PHYSICAL REVIEW LETTERS; JAN 12 2007; v.98, no.2, p.027203
34. **Effect of electronic stopping on the irradiation-induced changes in hybrid modified silicate thin films**
Ghisleni, R; Lucca, DA; Nastasi, M; Shao, L; Wang, YQ; Dong, J; Mehner, A
Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS; APR 2007; v.257, p.581-584
35. **Effect of quantum and dielectric confinement on the exciton-exciton interaction energy in type II core/shell semiconductor nanocrystals**
Piryatinski, A; Ivanov, SA; Tretiak, S; Klimov, VI
Source: NANO LETTERS; JAN 2007; v.7, no.1, p.108-115
36. **Effects of decreasing layer thickness on the high temperature mechanical behavior of Cu / Nb nanoscale multilayers**
Mara, NA; Tamayo, T; Sergueeva, AV; Zhang, X; Misra, A; Mukherjee, AK
Source: Thin Solid Films; Feb 12 2007; v.515, no.6, p.3241-3245
37. **Effects of ion beam irradiation on self-trapped defects in single-crystal Lu₂SiO₅**
Jacobsohn, LG; Lee, JK; Bennett, BL; Muenchhausen, RE; Nastasi, M.; Cooke, DW
Source: Journal of Luminescence; May 2007; v.124, no.1, p.5-9
38. **Effects of ion implantation on the surface mechanical properties of sol-gel derived TEOS/MTES thin films**
Lucca, DA; Ghisleni, R; Nastasi, M; Shao, L; Wang, YQ; Dong, J; Mehner, A
Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS; APR 2007; v.257, p.577-580
39. **Elastic properties of yttrium-doped BaCeO₃ perovskite**
Zhang, JZ; Zhao, YS; Xu, HW; Li, BS; Weidner, DJ; Navrotsky, A
Source: APPLIED PHYSICS LETTERS; APR 16 2007; v.90, no.16, p.161903

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40. **Electrically resonant terahertz metamaterials: theoretical and experimental investigations**
Padilla, WJ; Aronsson, MT; Highstrete, C.; Lee, M.; Taylor, AJ; Averitt, RD
Source: Physical Review B (Condensed Matter and Materials Physics); 15 Jan. 2007; vol.75, no.4, p.41102-1-4
41. **Entropy of solid He-4: The possible role of a dislocation-induced glass**
Balatsky, AV; Graf, MJ; Nussinov, Z; Trugman, SA
Source: PHYSICAL REVIEW B; MAR 2007; v.75, no.9, p.094201
42. **Evaporative properties and pinning strength of laser-ablated, hydrophilic sites on lotus-leaf-like, nanostructured surfaces**
McLauchlin, ML; Yang, DQ; Aella, P; Garcia, AA; Picraux, ST; Hayes, MA
Source: Langmuir; Apr 24 2007; v.23, no.9, p.4871-4877
43. **Evidence of variation in slip mode in a polycrystalline nickel-base superalloy with change in temperature from neutron diffraction strain measurements**
Daymond, MR; Preuss, M; Clausen, B
Source: Acta Materialia; May 2007; v.55, no.9, p.3089-3102
44. **Excited states and optical response of a donor-acceptor substituted polyene: A TD-DFT study**
Wu, C; Tretiak, S; Chernyak, VY
Source: Chemical Physics Letters; Jan 12 2007; v.433, no.4-6, p.305-311
45. **Exploring the dislocation/twin interactions in zirconium**
Kaschner, GC; Tome, CN; McCabe, RJ; Misra, A.; Vogel, SC; Brown, DW
Source: Materials Science and Engineering A; Aug 15 2007; v.463, no.1-2, p.122-127
46. **Ferroelastic domain switching in lead zirconate titanate measured by in situ neutron diffraction**
Jones, JL; Hoffman, M; Vogel, SC
Source: Mechanics of Materials; April 2007; v.39, no.4, p.283-290
47. **Ferromagnetic resonance force microscopy on a thin permalloy film**
Nazaretski, E.; Martin, I.; Movshovich, R.; Pelekhov, DV; Hammel, PC; Zalalutdinov, M.; Baldwin, JW; Houston, B.; Mewes, T.
Source: Applied Physics Letters; 2007; v.90, no.23
48. **Ferromagnetism and crystalline electric field effects in cubic UX{sub } Zn{sub 20} (X = Co, Rh, Ir)**
Bauer, ED; Thompson, JD; Sarrao, JL; Hundley, MF
Source: Journal of Magnetism and Magnetic Materials; March 2007; v.310, no.2 SUPPL. PART 1, p.449-451
49. **Growth of thin Fe(0 0 1) films for terahertz emission experiments**
Meserole, CA; Fisher, GL; Hilton, DJ; Averitt, RD; Funk, DJ; Taylor, AJ
Source: Applied Surface Science; Jun 30 2007; v.253, no.17, p.6992-7003
50. **High-dimensional fractionalization and spinon deconfinement in pyrochlore antiferromagnets**
Nussinov, Z; Batista, CD; Normand, B; Trugman, SA
Source: PHYSICAL REVIEW B; MAR 2007; v.75, no.9, p.094411
51. **High-pressure/low-temperature neutron scattering of gas inclusion compounds: Progress and prospects**
Zhao, YS; Xu, HW; Daemen, LL; Lokshin, K; Tait, KT; Mao, WL; Luo, JH; Currier, RP; Hickmott, DD
Source: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA; APR 3 2007; v.104, no.14, p.5727-5731
52. **High-pressure melting of tantalum**
Luo, Sheng-Nian; Swift, Damian C.
Source: Physica B: Condensed Matter; Jan 15 2007; v.388, no.1-2, p.139-144
53. **High-resolution roton spectra around the superfluid transition temperature in liquid He-4**
Zsigmond, G; Mezei, F; Telling, MTF
Source: PHYSICA B-CONDENSED MATTER; JAN 15 2007; v.388, no.1-2, p.43-48

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54. **In situ neutron diffraction study of deuterated portlandite Ca(OD)₂ at high pressure and temperature**
Xu, Hongwu; Zhao, Yusheng; Zhang, Jianzhong; Hickmott, Donald D.; Daemen, Luke L.
Source: Physics and Chemistry of Minerals; May 2007; v.34, no.4, p.223-232
55. **In situ neutron diffraction study on the mechanical behavior of an ultra-fine-grained steel**
Tao, K; Choo, H; Li, H; Clausen, B; Brown, DW; Jin, JE; Lee, YK
Source: Materials Science Forum; 2006; vol.524-525, p.639-44
56. **Increasing the resolution of single pair fluorescence resonance energy transfer measurements in solution via molecular cytometry**
Werner, JH; McCarney, ER; Keller, RA; Plaxco, KW; Goodwin, PM
Source: Analytical Chemistry; May 1 2007; v.79, no.9, p.3509-3513
57. **Influence of deposition rate on the formation of growth twins in sputter-deposited 330 austenitic stainless steel films**
Zhang, X; Anderoglu, O; Misra, A; Wang, H
Source: Applied Physics Letters; 9 April 2007; vol.90, no.15, p.153101-1-3
58. **Influence of grain size and texture on the mechanical response of high purity hafnium**
Cerreta, E.; Yablinsky, CA; Gray III, GT; Vogel, SC; Brown, DW
Source: Materials Science and Engineering A; May 15 2007; v.456, no.1-2, p.243-251
59. **Influence of the tool pin and shoulder on microstructure and natural aging kinetics in a friction-stir-processed 6061-T6 aluminum alloy**
Woo, W; Choo, H; Brown, DW; Feng, ZL
Source: METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE; JAN 2007; v.38A, no.1, p.69-76
60. **Interaction dynamics of elastic waves with a complex nonlinear scatterer through the use of a time reversal mirror**
Ulrich, TJ; Johnson, Paul A.; Guyer, Robert A.
Source: Physical Review Letters; Mar 7 2007; v.98, no.10
61. **Irradiation-induced order-to-disorder phase transformation at different temperatures in Dy₂O₃**
Tang, M; Valdez, JA; Sickafus, KE; Lu, P
Source: JOM; APR 2007; v.59, no.4, p.36-39
62. **Length scale effects on the electronic transport properties of nanometric Cu/Nb multilayers**
Lima, AL; Zhang, X.; Misra, A.; Booth, CH; Bauer, ED; Hundley, MF
Source: Thin Solid Films; Feb 26 2007; v.515, no.7-8, p.3574-3579
63. **Low temperature crystal structures of apatite oxygen-conductors containing interstitial oxygen**
Leon-Reina, L; Porras-Vazquez, JM; Losilla, ER; Sheptyakov, DV; Llobet, A; Aranda, MAG
Source: DALTON TRANSACTIONS; 2007; no.20, p.2058-2064
64. **Low-temperature specific heat of YbIn_{3-x}Cu_x**
Tokiwa, Y.; Ronning, F.; Fritsch, V.; Movshovich, R.; Thompson, JD; Sarrao, JL
Source: Journal of Magnetism and Magnetic Materials; March 2007; v.310, no.2 SUPPL. PART 1, p.325-327
65. **Magnetic and chemical nonuniformity in Ga_{1-x}Mn_xAs films as probed by polarized neutron and x-ray reflectometry**
Kirby, BJ; Borchers, JA; Rhyne, JJ; O'Donovan, KV; te Velthuis, SGE; Roy, S.; Sanchez-Hanke, C.; Wojtowicz, T.; Liu, X.; Lim, WL; et. al.
Source: Physical Review B (Condensed Matter and Materials Physics); 15 Dec. 2006; vol.74, no.24, p.245304-1-7
66. **Magnetic excitations of the 2-D Sm spin layers in Sm (La, Sr) CuO₃**
Ronning, F.; Capan, C.; Moreno, NO; Thompson, JD; Bulaevskii, LN; Movshovich, R.; van der Marel, D.
Source: Journal of Magnetism and Magnetic Materials; March 2007; v.310, no.2 SUPPL. PART 2, p.e392-e393
67. **Magnetic movement of biological fluid droplets**
Garcia, AA; Egatz-Gomez, A; Lindsay, SA; Dominguez-Garcia, P; Melle, S; Marquez, M; Rubio, MA; Picraux,

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ST; Yang, DQ; Aella, P; et. al.

Source: JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS; APR 2007; v.311, no.1, p.238-243

68. **Magnetic properties of cobalt nanoparticles obtained by ion implantation into amorphous silica**
Jacobsohn, LG; Thompson, JD; Dickerson, RM; Nastasi, M.
Source: Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; April 2007; v.257, no.1-2 SPEC. ISS., p.447-450
69. **Magnetic resonance force microscopy studies in a thin permalloy film**
Nazaretski, E.; Thompson, JD; Pelekhev, DV; Mewes, T.; Wigen, PE; Kim, J.; Zalalutdinov, M.; Baldwin, JW; Houston, B.; Hammel, PC; et. al.
Source: Journal of Magnetism and Magnetic Materials; March 2007; v.310, no.2 SUPPL. PART 3, p.e941-e943
70. **Magnetism and unconventional superconductivity in isostructural cerium and plutonium compounds**
Thompson, JD; Park, Tuson; Curro, NJ; Ronning, F.; Movshovich, R.; Bauer, ED; Sarrao, JL
Source: Journal of Magnetism and Magnetic Materials; March 2007; v.310, no.2 SUPPL. PART 1, p.532-535
71. **Measurement of the 3D Born-Oppenheimer potential of a proton in a hydrogen-bonded system via deep inelastic neutron scattering: The superprotic conductor Rb₃H(SO₄)₂(2)**
Homouz, D; Reiter, G; Eckert, J; Mayers, J; Blinc, R
Source: PHYSICAL REVIEW LETTERS; MAR 16 2007; v.98, no.11, p.115502
72. **Melting dynamics of superheated argon: Nucleation and growth**
Luo, SN; Zheng, LQ; Strachan, A; Swift, DC
Source: JOURNAL OF CHEMICAL PHYSICS; JAN 21 2007; v.126, no.3, p.034505
73. **Membrane disruption and selectivity of antimicrobial peptide protegrin-1 and the role of membrane lipid composition**
Ishitsuka, Y; Lam, KLH; Cheng, YS; Walsh, M; Chien, K; Majewski, J; Kjaer, K; Waring, AJ; Lehrer, RI; Lee, KYC
Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.514A-514A
74. **Microscopic evidence for field-induced magnetism in CeCoIn₅**
Young, BL; Urbano, RR; Curro, NJ; Thompson, JD; Sarrao, JL; Vorontsov, AB; Graf, MJ
Source: PHYSICAL REVIEW LETTERS; JAN 19 2007; v.98, no.3, p.036402
75. **Modeling compression and tension reloads in copper restrained by rolling**
Beyerlein, IJ; Tome, CN
Source: MATERIALS SCIENCE FORUM; 2007; v.539-543, pt.1-5, p.3383-3388
76. **Modeling texture, twinning and hardening evolution during deformation of hexagonal materials**
Proust, G.; Tome, CN; Kaschner, GC
Source: Acta Materialia; April 2007; v.55, no.6, p.2137-2148
77. **Modeling transients in the mechanical response of copper due to strain path changes**
Beyerlein, Irene J.; Tome, Carlos N.
Source: International Journal of Plasticity; April 2007; v.23, no.4, p.640-664
78. **Multistate modified embedded atom method**
Baskes, MI; Srinivasan, SG; Valone, SM; Hoagland, RG
Source: PHYSICAL REVIEW B; MAR 2007; v.75, no.9, p.094113
79. **Muon spin resonance study on UCu_{1.5}Sn₂**
El-Khatib, S; Llobet, A; Kalvius, GM; Noakes, DR; Stronach, CE; Ansaldi, EJ; Torikachvili, MS; Nakotte, H
Source: JOURNAL OF APPLIED PHYSICS; MAY 1 2007; v.101, no.9, p.09D515
80. **Nanocrystal-based light-emitting diodes utilizing high-efficiency nonradiative energy transfer for color conversion**
Achermann, M.; Petruska, MA; Koleske, DD; Crawford, MH; Klimov, VI
Source: Nano Letters; May 2006; vol.6, no.7

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81. **Nearest-neighbor coordination and chemical ordering in multicomponent bulk metallic glasses**
Ma, D; Stoica, AD; Yang, L; Wang, XL; Lu, ZP; Neufeind, J; Kramer, MJ; Richardson, JW; Proffen, T
Source: APPLIED PHYSICS LETTERS; MAY 21 2007; v.90, no.21, p.211908
82. **Neutron diffraction investigation of hysteresis reduction and increase in linearity in the stress-strain response of superelastic NiTi**
Rathod, CR; Clausen, B; Bourke, MAM; Vaidyanathan, R
Source: Applied Physics Letters; 15 May 2006; vol.88, no.20, p.201919-1-3
83. **Neutron diffraction studies of the atomic thermal vibrations in complex materials: application of the Wilson method to examination of micro- and nano-crystalline SiC**
Stelmakh, S; Grzanka, E; Wojdyr, M; Proffen, T; Vogel, SC; Zerda, TW; Palosz, W; Palosz, B
Source: ZEITSCHRIFT FUR KRISTALLOGRAPHIE; 2007; v.222, no.3-4, p.174-185
84. **New strain path to inducing phase transitions in semi-crystalline polymers**
Brown, EN; Dattelbaum, DM; Brown, DW; Rae, PJ; Clausen, B.
Source: Polymer; Apr 24 2007; v.48, no.9, p.2531-2536
85. **Nonequilibrium and nonlinear dynamics in Berea and Fontainebleau sandstones: Low-strain regime**
Pasqualini, D; Heitmann, K; TenCate, JA; Habib, S; Higdon, D; Johnson, PA
Source: JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH; JAN 23 2007; v.112, no.B1, p.B01204
86. **Observation of local non-centrosymmetry in weakly biferroic YCrO₃**
Ramesha, K.; Llobet, A.; Proffen, T.; Serrao, CR; Rao, CNR
Source: Journal of Physics: Condensed Matter; 14 March 2007; vol.19, no.10
87. **Optical signatures of momentum-dependent hybridization of the local moments and conduction electrons in Kondo lattices**
Burch, KS; Dordevic, SV; Mena, FP; Kuzmenko, AB; van der Marel, D; Sarrao, JL; Jeffries, JR; Bauer, ED; Maple, MB; Basov, DN
Source: PHYSICAL REVIEW B; FEB 2007; v.75, no.5, p.05452
88. **Order-disorder phase transformation in ion-irradiated rare earth sesquioxides**
Tang, M.; Valdez, JA; Sickafus, KE; Lu, P.
Source: Applied Physics Letters; 2007; v.90, no.15
89. **Order-disorder phase transformation in ion-irradiated rare earth sesquioxide DY2O₃**
Tang, M; Lu, P; Valdez, JA; Stanek, CR; Sickafus, KE
Source: PHYSICA STATUS SOLIDI C-CURRENT TOPICS IN SOLID STATE PHYSICS; 2007; v.4, no.3, p.1171-1174
90. **Ordering and displacement of cholesterol in phospholipid monolayers by hexadecanol and octanol**
Ratajczak, MK; Ko, C; Majewski, J; Kjaer, K; Lange, Y; Steck, T; Lee, KYC
Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.425A-425A
91. **Parallel replica dynamics for driven systems: Derivation and application to strained nanotubes**
Uberuaga, BP; Stuart, SJ; Voter, AF
Source: PHYSICAL REVIEW B; JAN 2007; v.75, no.1, p.01430
92. **pH-dependent conformational changes and insertion of diphtheria toxin adsorbed to lipid membranes by neutron and X-ray reflection**
Kent, MS; Kim, H; Murton, J; Satija, S; McGillivray, D; Majkrzak, C; Heinrich, F; Majewski, J; Loesche, M
Source: BIOPHYSICAL JOURNAL; JAN 2007; suppl.S, p.587A-587A
93. **Photo-induced phenomena in complex materials: probing quasiparticle dynamics using infrared and far-infrared pulses**
Hilton, DJ; Prasankumar, RP; Trugman, SA; Taylor, AJ; Averitt, RD
Source: Journal of the Physical Society of Japan; Jan. 2006; vol.75, no.1, p.011006/1-13

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

94. **Plastic anisotropy in aluminum and copper pre-strained by equal channel angular extrusion**
Beyerlein, Irene J.; Alexander, David J.; Tome, Carlos N.
Source: Journal of Materials Science; March 2007; v.42, no.5, p.1733-1750
95. **Plastic flow stability of metallic nanolaminate composites**
Misra, A.; Hoagland, RG
Source: Journal of Materials Science; March 2007; v.42, no.5, p.1765-1771
96. **Quantum dynamics of polaron formation**
Ku, LC; Trugman, SA
Source: PHYSICAL REVIEW B; JAN 2007; v.75, no.1, p.014307
97. **Radiation-induced amorphization resistance and radiation tolerance in structurally related oxides**
Sickafus, Kurt E.; Grimes, Robin W.; Valdez, James A.; Cleave, Antony; Tang, Ming; Ishimaru, Manabu; Corish, Siobhan M.; Stanek, Christopher R.; Uberuaga, Blas P.
Source: Nature Materials; Mar 7 2007; v.6, no.3, p.217-223
98. **Reactivity of (C₅Me₅)Lu(CH₂SiMe₃)₂(THF) with pyridine ring systems:
Synthesis and structural characterization of an {eta}²-(N,C)-pyridyl
(mono)pentamethylcyclopentadienyl lutetium(III) complex**
Jantunen, Kimberly C.; Scoot, Brian L.; Gordon, John C.; Kiplinger, Jacqueline L.
Source: Organometallics; May 7 2007; v.26, no.10, p.2777-2781
99. **Reply to "comment on 'Melting dynamics of superheated argon: Nucleation and growth'" [J. Chem. Phys. 126, 034505 (2007)]**
Luo, Sheng-Nian; Zheng, Lianqing; Strachan, Alejandro; Swift, Damian C.
Source: Journal of Chemical Physics; 2007; v.126, no.18
100. **Role of twinning on texture evolution of silver during equal channel angular extrusion**
Beyerlein, IJ; Toth, LS; Tome, CN; Suwas, S
Source: Philosophical Magazine; February 2007; v.87, no.6, p.885-906
101. **Simulation of defects and defect processes in fluorite and fluorite related oxides: Implications for radiation tolerance**
Rushton, MJD; Stanek, CR; Cleave, AR; Uberuaga, BP; Sickafus, KE; Grimes, RW
Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS; FEB 2007; v.255, no.1, SI, p.151-157
102. **Single-exciton optical gain in semiconductor nanocrystals**
Klimov, VI; Ivanov, SA; Nanda, J; Achermann, M; Bezel, I; McGuire, JA; Piryatinski, A
Source: NATURE; MAY 24 2007; v.447, no.7143, p.441-446
103. **Spectral and dynamical properties of multiexcitons in semiconductor nanocrystals**
Klimov, Victor I.
Source: Annual Review of Physical Chemistry; 2007; v.58, p.635-673
104. **Stabilization of charge ordering in La_{1/3}Sr_{2/3}FeO_{3-delta} by magnetic exchange**
McQueeney, RJ; Ma, J; Chang, S; Yan, JQ; Hehlen, M; Trouw, F
Source: PHYSICAL REVIEW LETTERS; MAR 23 2007; v.98, no.12, p.126402
105. **Structure and properties of bulk nanostructured alloys synthesized by flux-melting**
Shen, TD; Zhang, X.; Han, K.; Davy, CA; Aujla, D.; Kalu, PN; Schwarz, RB
Source: Journal of Materials Science; March 2007; v.42, no.5, p.1638-1648
106. **Study of low-temperature austenite decomposition in a Fe-C-Mn-Si steel using the neutron Bragg edge transmission technique**
Huang, J; Vogel, SC; Poole, WJ; Militzer, M; Jacques, P
Source: Acta Materialia; May 2007; v.55, no.8, p.2683-2693
- Synthesis, structure, and thermochemistry of the formation of the metal-metal bonded dimers [Mo(mu-TeAr)(CO)(3)((PP₃)-P-i)](2) (Ar = phenyl, naphthyl) by phosphine elimination from Mo-center dot(TePh)(CO)(3)((PP₃)-Pr-i)(2)**

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Weir, JJ; McDonough, JE; Fortman, G; Isrow, D; Hoff, CD; Scott, B; Kubas, GJ
Source: INORGANIC CHEMISTRY; FEB 5 2007; v.46, no.3, p.652-659

107. Systematic studies of early actinide complexes: Thorium(IV) fluoroketimides

Schelter, Eric J.; Yang, Ping; Scott, Brian L.; Da Re, Ryan E.; Jantunen, Kimberly C.; Martin, Richard L.; Hay, P. Jeffrey; Morris, David E.; Kiplinger, Jacqueline L.
Source: Journal of the American Chemical Society; Apr 25 2007; v.129, no.16, p.5139-5152

108. Tailoring conducting polymer chemistry for the chemical deposition of metal particles and clusters

Wang, HL; Li, WG; Jia, QX; Akhadov, E
Source: CHEMISTRY OF MATERIALS; FEB 6 2007; v.19, no.3, p.520-525

109. Temperature-dependent magnetic resonance force microscopy studies of a thin Permalloy film

Nazaretski, E.; Thompson, JD; Movshovich, R.; Zalalutdinov, M.; Baldwin, JW; Houston, B.; Mewes, T.; Pelekhover, DV; Wigen, P.; Hammel, PC
Source: Journal of Applied Physics; 2007; v.101, no.7

110. Terahertz emission from ultrafast ionizing air in symmetry-broken laser fields

Kim, KY; Glownia, JH; Taylor, AJ; Rodriguez, G.
Source: Optics Express; Apr 16 2007; v.15, no.8, p.4577-4584

111. Theoretical investigation of the binding of small molecules and the intramolecular agostic interaction at tungsten centers with carbonyl and phosphine ligands

Muckerman, JT; Fujita, E; Hoff, CD; Kubas, GJ
Source: JOURNAL OF PHYSICAL CHEMISTRY B; JUN 21 2007; v.111, no.24, p.6815-6821

112. Thermomechanics of nanocrystalline nickel under high pressure-temperature conditions

Zhao, YS; Zhang, JZ; Clausen, B; Shen, TD; Gray, GT; Wang, LP
Source: NANO LETTERS; FEB 2007; v.7, no.2, p.426-432

113. Transformation-induced plasticity in an ultrafine-grained steel: An in situ neutron diffraction study

Tao, KX; Choo, H; Li, HQ; Clausen, B; Jin, JE; Lee, YK
Source: APPLIED PHYSICS LETTERS; MAR 5 2007; v.90, no.10, p.101911

114. Twinning and detwinning during cyclic deformation of Mg alloy AZ31B

Brown, DW; Jain, A; Agnew, SR; Clausen, B
Source: MATERIALS SCIENCE FORUM; 2007; v.539-543, pt.1-5, p.3407-3413

115. Understanding the insulating phase in colossal magnetoresistance manganites: Shortening of the Jahn-Teller long-bond across the phase diagram of La_{1-x}CaxMnO₃

Bozin, ES; Schmidt, M; DeConinck, AJ; Paglia, G; Mitchell, JF; Chatterji, T; Radaelli, PG; Proffen, T; Billinge, SJL
Source: PHYSICAL REVIEW LETTERS; MAR 30 2007; v.98, no.13, p.137203

BIOLOGICAL & ENVIRONMENTAL RESEARCH

116. Acidobacteria phylum sequences in uranium-contaminated subsurface sediments greatly expand the known diversity within the phylum

Barns, Susan M.; Cain, Elizabeth C.; Sommerville, Leslie; Kuske, Cheryl R.
Source: Applied and Environmental Microbiology; May 2007; v.73, no.9, p.3113-3116

117. Analysis and performance of oil well cement with 30 years of CO₂ exposure from the SACROC Unit, West Texas, USA

Carey, J. William; Wigand, Marcus; Chipera, Steve J.; WoldeGabriel, Giday; Pawar, Rajesh; Lichtner, Peter C.; Wehner, Scott C.; Raines, Michael A.; Guthrie Jr., George D.
Source: International Journal of Greenhouse Gas Control; April 2007; v.1, no.1, p.75-85

REPRESENTATIVE PUBLICATIONS BY LOS ALAMOS STAFF ON OFFICE OF SCIENCE PROGRAMS IN 2007

118. **Biological reduction of Np(V) and Np(V) citrate by metal-reducing bacteria**
Icopini, Gary A.; Boukhalfa, Hakim; Neu, Mary P.
Source: Environmental Science and Technology; Apr 15 2007; v.41, no.8, p.2764-2769
119. **Comment on: "Upscaling geochemical reaction rates using pore-scale network modeling" by Li, Peters and Celia**
Lichtner, PC; Kang, QJ
Source: ADVANCES IN WATER RESOURCES; MAR 2007; v.30, no.3, p.686-690
120. **Complete genome sequence of *Bacillus thuringiensis* Al Hakam**
Challacombe, JF; Altherr, MR; Xie, G; Bhotika, SS; Brown, N; Bruce, D; Campbell, CS; Campbell, ML; Chen, J; Chertkov, O; et. al.
Source: JOURNAL OF BACTERIOLOGY; MAY 2007; v.189, no.9, p.3680-3681
121. **Complete genome sequence of *Haemophilus somnus* (*Histophilus somni*) strain 129Pt and comparison to *Haemophilus ducreyi* 35000HP and *Haemophilus influenzae* Rd**
Challacombe, JF; Duncan, AJ; Brettin, TS; Bruce, D; Chertkov, O; Detter, JC; Han, CS; Misra, M; Richardson, P; Tapia, R; et. al.
Source: JOURNAL OF BACTERIOLOGY; MAR 2007; v.189, no.5, p.1890-1898
122. **Complexation of Pu(IV) with the natural siderophore desferrioxamine B and the redox properties of Pu(IV)(siderophore) complexes**
Boukhalfa, H; Reilly, SD; Neu, MP
Source: INORGANIC CHEMISTRY; FEB 5 2007; v.46, no.3, p.1018-1026
123. **Creation of a novel fluorescent protein by guided consensus engineering**
Dai, Mingha; Fisher, Hugh E.; Temirov, Jamshid; Kiss, Csaba; Phipps, Mary E.; Pavlik, Peter; Werner, James H.; Bradbury, Andrew RM
Source: Protein Engineering, Design and Selection; February 2007; v.20, no.2, p.69-79
124. **Dopaminergic modulation and rod contribution in the generation of oscillatory potentials in the tiger salamander retina**
Perry, B; George, JS
Source: VISION RESEARCH; FEB 2007; v.47, no.3, p.309-31
125. **Effect of exogenous reductant on growth and iron mobilization from ferrihydrite by the *Pseudomonas mendocina* ymp strain**
Dhungana, S; Anthony, CR; Hersman, LE
Source: Applied and Environmental Microbiology; May 2007; v.73, no.10, p.3428-3430
126. **Evaporation duct for inhomogeneous conditions in coastal regions**
Geernaert, GL
Source: Journal of Applied Meteorology and Climatology; April 2007; v.46, no.4, p.538-543
127. **Modeling spatiotemporal covariance for magnetoencephalography or electroencephalography source analysis**
Plis, Sergey M.; George, JS; Jun, SC; Pare-Blagoev, J.; Ranken, DM; Wood, CC; Schmidt, DM
Source: Physical Review E - Statistical, Nonlinear, and Soft Matter Physics; Jan 30 2007; v.75, no.1
128. **New measurement technique reveals rapid post-illumination changes in the carbon isotope composition of leaf-respired CO₂**
Barbour, MM; McDowell, NG; Tcherkez, G; Bickford, CP; Hanson, DT
Source: PLANT CELL AND ENVIRONMENT; APR 2007; v.30, no.4, p.469-482
129. **New measurement technique reveals temporal variation in delta O-18 of leaf-respired CO₂**
Barbour, MM; Farquhar, GD; Hanson, DT; Bickford, CP; Powers, H; McDowell, NG
Source: PLANT CELL AND ENVIRONMENT; APR 2007; v.30, no.4, p.456-468
130. **Parametric study of methane hydrate dissociation in oceanic sediments driven by thermal stimulation**
Tsimpanogiannis, IN; Lichtner, PC
Source: Journal of Petroleum Science and Engineering; March 2007; v.56, no.1-3, p.165-175

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131. Pore-network study of methane hydrate dissociation

Tsimpanogiannis, IN; Lichtner, PC

Source: Physical Review E (Statistical, Nonlinear, and Soft Matter Physics); Nov. 2006; vol.74, no.5, p.56303-1-13

132. Preliminary time-of-flight neutron diffraction study on diisopropyl fluorophosphatase (DFPase) from *Loligo vulgaris*

Blum, MM; Koglin, A; Ruterjans, H; Schoenborn, B; Langan, P; Chen, JCH

Source: Acta Crystallographica Section F Structural Biology and Crystallization Communications; JAN 2007; v.63, no.Part 1, p.42-45

133. Three distinct clades of cultured heterocystous cyanobacteria constitute the dominant N₂-fixing members of biological soil crusts of the Colorado Plateau, USA

Yeager, CM; Kornosky, JL; Morgan, RE; Cain, EC; Garcia-Pichel, F; Housman, DC; Belnap, J; Kuske, CR

Source: FEMS Microbiology Ecology; APR 2007; v.60, no.1, p.85-97

NUCLEAR PHYSICS

134. Centrality dependence of pi(0) and eta production at large transverse momentum in root s(NN) = 200 GeV d+Au collisions

Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Jamel, A; Alexander, J; Aoki, K; Aphecetche, L; Armendariz, R; et. al.

Source: PHYSICAL REVIEW LETTERS; APR 27 2007; v.98, no.17, p.172302

135. Determination of the nu(e) and total B-8 solar neutrino fluxes using the Sudbury Neutrino Observatory Phase I data set

Aharmim, B; Ahmad, QR; Ahmed, SN; Allen, RC; Andersen, TC; Anglin, JD; Buhler, G; Barton, JC; Beier, EW; Bercovitch, M; et. al.

Source: PHYSICAL REVIEW C; APR 2007; v.75, no.4, p.045502

136. Energy loss and flow of heavy quarks in Au+Au collisions at root s(NN) = 200 GeV

Adare, A; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Bataineh, H; Alexander, J; Al-Jamel, A; Aoki, K; Aphecetche, L; et. al.

Source: PHYSICAL REVIEW LETTERS; APR 27 2007; v.98, no.17, p.172301

137. Evidence for a long-range component in the pion emission source in Au plus Au collisions at root s(NN)=200 GeV

Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Amirikas, R; Aphecetche, L; Aronson, SH; Averbeck, R; et. al.

Source: PHYSICAL REVIEW LETTERS; MAR 30 2007; v.98, no.13, p.132301

138. High transverse momentum eta meson production in p+p, d+Au, and Au+Au collisions at root s(NN)=200 GeV

Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Alexander, J; Al-Jamel, A; Amirikas, R; Aoki, K; Aphecetche, L; et. al.

Source: PHYSICAL REVIEW C; FEB 2007; v.75, no.2, p.024909

139. Improved evaluations of neutron-induced reactions on americium isotopes

Talou, P; Kawano, T; Young, PG; Chadwick, MB; MacFarlane, RE

Source: Nuclear Science and Engineering; January 2007; v.155, no.1, p.84-95

140. J/psi production versus centrality, transverse momentum, and rapidity in Au+Au collisions at root S-NN=200 GeV

Adare, A; Afanasiev, S; Aidala, C; Ajitanand, N; Akiba, Y; Al-Bataineh, H; Alexander, J; Al-Jamel, A; Aoki, K; Aphecetche, L; et. al.

Source: PHYSICAL REVIEW LETTERS; JUN 8 2007; v.98, no.23, p.232301

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141. **J/psi production versus transverse momentum and rapidity in p+p collisions at root s=200 GeV**
Adare, A; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Bataineh, H; Alexander, J; Aoki, K; Aphecetche, L; Armendariz, R; et. al.
Source: PHYSICAL REVIEW LETTERS; JUN 8 2007; v.98, no.23, p.232002
142. **Large area polarized He-3 neutron spin filter**
Chupp, TE; Coulter, KP; Kandes, M; Sharma, M; Smith, TB; Jones, G; Chen, WC; Gentile, TR; Rich, DR; Lauss, B; et. al.
Source: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT; MAY 11 2007; v.574, no.3, p.500-509
143. **Limitations of the distorted-wave impulse approximation in describing the energy dependence of the $^{10}\text{B}(\text{n},\text{p})^{10}\text{Be}$ (g.s.) reaction**
Sorenson, DS; Ullmann, JL; Ling, A.; Park, BK; Haight, RC; King, NSP; Lindgren, RA; Baghaei, H.; Stephenson, EJ; Brady, FP; et. al.
Source: Physical Review C (Nuclear Physics); March 2007; vol.75, no.3, p.34611-1-11
144. **Measurement of direct photon production in p+p collisions at root s=200 GeV**
Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Jamel, A; Alexander, J; Aoki, K; Aphecetche, L; Armendariz, R; et. al.
Source: PHYSICAL REVIEW LETTERS; JAN 5 2007; v.98, no.1, p.012002
145. **Multiple-isotope comparison for determining $^{0}\text{U}+^{0}\text{BDU}+^{0}\text{B2U}+^{0}\text{B2}$ mechanisms**
Gehman, VM; Elliott, SR
Source: Journal of Physics G (Nuclear and Particle Physics); April 2007; vol.34, no.4, p.667-78
146. **Particle identification algorithms for the HARP forward spectrometer**
Catanesi, MG; Radicioni, E; Edgecock, R; Ellis, M; Robbins, S; Soler, FJP; Gossling, C; Bunyatov, S; Chelkov, G; Chukanov, A; et. al.
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment; Mar 11 2007; v.572, no.2, p.899-921
147. **Scaling properties of azimuthal anisotropy in Au plus Au and Cu plus Cu collisions at root s(NN)=200 GeV**
Adare, A; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Bataineh, H; Alexander, J; Al-Jamel, A; Aoki, K; Aphecetche, L; et. al.
Source: PHYSICAL REVIEW LETTERS; APR 20 2007; v.98, no.16, p.162301
148. **Search for electron neutrino appearance at the Delta m(2)similar to 1 eV(2) scale**
Aguilar-Arevalo, AA; Bazarko, AO; Brice, SJ; Brown, BC; Bugel, L; Cao, J; Coney, L; Conrad, JM; Cox, DC; Curioni, A; et. al.
Source: PHYSICAL REVIEW LETTERS; JUN 8 2007; v.98, no.23, p.231801
149. **System size and energy dependence of jet-induced hadron pair correlation shapes in Cu+Cu and Au+Au collisions at root S-NN 200 and 62.4 GeV**
Adare, A; Adler, SS; Afanasiev, S; Aidala, C; Ajitanand, NN; Akiba, Y; Al-Bataineh, H; Alexander, J; Al-Jamel, A; Aoki, K; et. al.
Source: PHYSICAL REVIEW LETTERS; JUN 8 2007; v.98, no.23, p.232302
150. **Tensor forces and the ground-state structure of nuclei**
Schiavilla, R; Wiringa, RB; Pieper, SC; Carlson, J
Source: PHYSICAL REVIEW LETTERS; MAR 30 2007; v.98, no.13, p.132501

ADVANCED SCIENTIFIC COMPUTING RESEARCH

151. **Being sensitive to uncertainty**
Arriola, LM; Hyman, JM
Source: COMPUTING IN SCIENCE & ENGINEERING; MAR-APR 2007; v.9, no.2, p.10-20

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152. **Efficient linearity and bound preserving conservative interpolation (remapping) on polyhedral meshes**
Garimella, R; Kucharik, M; Shashkov, M
Source: Computers and Fluids; February 2007; v.36, no.2, p.224-237
153. **Ergodicity of pumping tests**
Sanchez-Vila, X; Tartakovsky, DM
Source: WATER RESOURCES RESEARCH; MAR 10 2007; v.43, no.3, p.W03414
154. **Gamow-Teller strength in the exotic odd-odd nuclei La-138 and Ta-180 and its relevance for neutrino nucleosynthesis**
Byelikov, A; Adachi, T; Fujita, H; Fujita, K; Fujita, Y; Hatanaka, K; Heger, A; Kalmykov, Y; Kawase, K; Langanke, K; et. al.
Source: PHYSICAL REVIEW LETTERS; FEB 23 2007; v.98, no.8, p.082501
155. **Multidimensional compactons**
Rosenau, P; Hyman, JM; Staley, M
Source: PHYSICAL REVIEW LETTERS; JAN 12 2007; v.98, no.2, p.024101
156. **Nucleosynthesis and remnants in massive stars of solar metallicity**
Woosley, SE; Heger, A
Source: PHYSICS REPORTS-REVIEW SECTION OF PHYSICS LETTERS; APR 2007; v.442, no.1-6, p.269-283
157. **Primer on space-time modeling from a Bayesian perspective**
Higdon, D
Source: MONOGRAPH ON STATISTICS AND APPLIED PROBABILITY; 2007; v.107, p.217-279
158. **Probabilistic risk analysis in subsurface hydrology**
Tartakovsky, DM
Source: GEOPHYSICAL RESEARCH LETTERS; MAR 15 2007; v.34, no.5, p.L05404
159. **Strategy for detecting extreme eigenvalues bounding gaps in the discrete spectrum of self-adjoint operators**
Hasson, Maurice; Hyman, James M.; Restrepo, Juan M.
Source: Computers and Mathematics with Applications; April 2007; v.53, no.8, p.1271-1283

FUSION ENERGY SCIENCES

160. **Chair summaries from the 2006 Innovative Confinement Concepts (ICC) workshop**
Craig, D; Goldston, R; Jarboe, TR; Nelson, BA; Sovinec, CR; Woodruff, S; Wurden, G
Source: Journal of Fusion Energy; June 2007; v.26, no.1-2, p.3-15
161. **Driven resonance in partially relaxed plasmas**
Tang, XZ
Source: PHYSICAL REVIEW LETTERS; APR 27 2007; v.98, no.17, p.175001
162. **Effects of boundary conditions and flow on the kink instability in a cylindrical plasma column**
Furno, I; Intrator, TP; Lapenta, G; Dorf, L; Abbate, S; Ryutov, DD
Source: PHYSICS OF PLASMAS; FEB 2007; v.14, no.2, p.022103
163. **Formation of collisionless high-beta plasmas by odd-parity rotating magnetic fields**
Cohen, SA; Berlinger, B; Brunkhorst, C; Brooks, A; Ferraro, N; Lundberg, DP; Roach, A; Glasser, AH
Source: PHYSICAL REVIEW LETTERS; APR 6 2007; v.98, no.14, p.145002
164. **Gas jet disruption mitigation studies on Alcator C-Mod**
Granetz, R; Whyte, DG; Izzo, VA; Biewer, T; Reinke, ML; Terry, J; Bader, A; Bakhtiari, M; Jernigan, T; Wurden, G
Source: Nuclear Fusion; Dec. 2006; vol.46, no.12, p.1001-8
165. **Laser-driven ion accelerators: Spectral control, monoenergetic ions and new acceleration mechanisms**
Flippo, K.; Hegelich, BM; Albright, BJ; Yin, L.; Gautier, DC; Letzring, S.; Schollmeier, M.; Schreiber, J.;

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Schulze, R.; Fernandez, JC

Source: Laser and Particle Beams; January 2007; v.25, no.1, p.3-8

166. Long-lifetime current-driven rotating kink modes in a non-line-tied plasma column with a free end

Intrator, TP; Furno, I; Ryutov, DD; Lapenta, G; Dorf, L; Sun, X

Source: JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS; MAY 12 2007; v.112, no.A5, p.A05S90

167. Magnetic alpha-omega dynamo in AGN disks. II. Magnetic field generation, theories, and simulations

Pariev, VI; Colgate, SA; Finn, JM

Source: ASTROPHYSICAL JOURNAL; MAR 20 2007; v.658, no.1, pt.1, p.129-160

168. Magnetic field and inductance calculations in theta-pinch and Z-pinch geometries

Awe, TJ; Siemon, RE; Bauer, BS; Fuelling, S; Makhin, V; Hsu, SC; Intrator, TP

Source: Journal of Fusion Energy; June 2007; v.26, no.1-2, p.17-20

169. Monoenergetic and GeV ion acceleration from the laser breakout afterburner using ultrathin targets

Yin, L.; Albright, BJ; Hegelich, BM; Bowers, KJ; Flippo, KA; Kwan, TJT; Fernandez, JC

Source: Physics of Plasmas; 2007; v.14, no.5

170. Proposed experiment to study relaxation formation of a spherical tokamak with a plasma center column

Hsu, SC; Tang, XZ

Source: Journal of Fusion Energy; June 2007; v.26, no.1-2, p.85-90

171. Space charge neutralization in inertial electrostatic confinement plasmas

Evstatiiev, EG; Nebel, RA; Chacon, L.; Park, J.; Lapenta, G.

Source: Physics of Plasmas; 2007; v.14, no.4

HIGH-ENERGY PHYSICS

172. Discovery of TeV gamma-ray emission from the Cygnus region of the Galaxy

Abdo, AA; Allen, B; Berley, D; Blaufuss, E; Casanova, S; Chen, C; Coyne, DG; Delay, RS; Dingus, BL; Ellsworth, RW; et. al.

Source: ASTROPHYSICAL JOURNAL; MAR 20 2007; v.658, no.1, pt.2, p.L33-L36

173. Late-time convection in the collapse of a 23M(circled dot) star

Fryer, CL; Young, PA

Source: ASTROPHYSICAL JOURNAL; APR 20 2007; v.659, no.2, pt.1, p.1438-1448

174. Probing the density in the Galactic center region: Wind-blown bubbles and high-energy proton constraints

Fryer, CL; Liu, SM; Rockefeller, G; Hungerford, A; Belanger, G

Source: ASTROPHYSICAL JOURNAL; APR 10 2007; v.659, no.1, pt.1, p.389-406